

**Draft Summary of the Environmental Work Group Meeting
Oroville Facilities Relicensing (FERC Project No. 2100)
January 29, 2003**

The Department of Water Resources (DWR) hosted a meeting for the Environmental Work Group on January 29, 2003 in Oroville.

A summary of the discussion, decisions made, and action items is provided below. This summary is not intended to be a transcript, analysis of the meeting, or to indicate agreement or disagreement with any of the items summarized, except where expressly stated. The intent is to present a summary for interested parties who could not attend the meeting. The following are attachments to this summary:

Attachment 1	Meeting Agenda
Attachment 2	Meeting Attendees
Attachment 3	Flip Chart Notes
Attachment 4	Draft Resource Action Identification Form – Large Woody Debris Management for the Lower Feather River
Attachment 5	Draft Report SP-F3.2, Task 1; SP-F21, Task 2
Attachment 6	Interim Report SP-F3.2, Task 2; SP-F21, Task 1
Attachment 7	Interim Report SP-F3.2, Task 2; SP-F21, Task 1: Appendix A
Attachment 8	Interim Report for SP-F3.2, Task 3A
Attachment 9	Interim Report SP-F10, Task 1C
Attachment 10	Interim Report SP-F10, Task 4A
Attachment 11	Interim Report SP-F10, Task 3A
Attachment 12	Distribution and Habitat Use of Steelhead and other Fishes in the Lower Feather River, 1999-2001 Slide Presentation
Attachment 13	Draft Report SP-W5, Task 1, Phase 1
Attachment 14	Measuring the Effect of Low Water Temperature and Blanking and Grain Yield
Attachment 15	Grouping of Fishery Issue Goals
Attachment 16	Resource Goals Matrix

I. Introduction

Attendees were welcomed to the Environmental Work Group meeting. Attendees introduced themselves and their affiliations. The desired outcomes of the meeting were discussed as listed on the meeting agenda. The meeting agenda and list of meeting attendees are appended to this summary as Attachments 1 and 2, respectively. Meeting flip chart notes are included as Attachment 3.

II. Action Items – December 11, 2002 Environmental Work Group Meeting

A summary of the December 11, 2002 Environmental Work Group meeting is posted on the relicensing web site. The Facilitator reviewed the status of action items from that meeting as follows:

Action Item #E60:	Written comments to Randy Brown on SP-F9 Literature Review
Responsible:	Environmental Work Group participants
Status:	Randy was not in attendance so it is unknown if he has received any comments.
Action Item #E67:	Prepare a map of the surveyed areas for SP-T2
Responsible:	DWR
Status:	Map is under development and expected to be available for the February Environmental Work Group meeting.
Action Item #E68:	Comments on reports to authors and cc Terry Mills

Responsible: Participants
Status: This is an on-going action during the interim reporting process. Terry reiterated that the intent is not to collect comments and re-submit the interim reports. Comments will be considered during the development of final study reports.

Action Item #E69: Distribute NMFS letter electronically by request and to Cumulative/ESA Task Force
Responsible: DWR
Status: Letter has been distributed.

Action Item #E70: Draft letter requesting species list from NMFS
Responsible: DWR
Status: Eric Theiss reported that NMFS had sent a list previously that is still valid so DWR agreed to use it and drop the request for another at this time.

Action Item #E71: Comments on Cumulative presentation to Russ Stein
Responsible: Participants
Status: No comments have been received by Russ to date.

Action Item #E72: Consolidate the 39 Fisheries resource goals and distribute to Environmental Work Group
Responsible: DWR/Consulting Team
Status: The document was distributed to the Environmental Work Group and discussed later in the meeting (see discussion under VI below).

Action Item #E73: Provide a more detailed description of a PM&E measure as template for information needs
Responsible: NMFS
Status: A sample PM&E measure was provided and discussed later in the meeting (see discussion under VI below).

III. Update on Plenary Group and Task Force Actions

Ward Tabor representing DWR described the progress that the Plenary Process Task Force had made including reaching consensus on the Resource Action identification form. He explained how the PM&Es or resource actions would be reviewed and noted that the focus of PM&E development is expected to occur at the work group level. He added that some PM&Es will likely rise to the top by addressing wider resource goals but the Task Force was looking for a way to present all equally for consideration. The Draft Environmental Assessment will include PM&Es and information analyzing their effects. Ward indicated that the Task Force expects to have the Resource Action identification form approved by the Plenary at their next meeting. The Resource Action identification form is provided as Attachment 4 to this summary.

Woody Elliott representing DPR asked if there was concern with developing PM&Es prematurely in advance of study results. Ward responded that if there was time, the two tasks would be sequential but since we are on such a tight schedule, we need to begin development of potential PM&Es and at least settle on a range. For example, instream flow requirements can be bracketed with a range of high to low flows and then as study results become available, the flow can be refined. Other members of the Task Force noted that discussions are still needed to resolve the issue of evaluation. Some feel that different resources should be evaluated differently, while others prefer objective and common criteria to use for all resource areas. Eric Theiss representing NMFS is pleased with the form and glad it was being distributed to the work group participants even though the Plenary had not approved it yet. Ken Kules representing Metropolitan Water District offered that some of the Task Force members were concerned about releasing the form until the evaluation process was developed so that information submitted could be focused to highlight the evaluation factors.

IV. Study Deliverables and Implementation Updates

Before beginning the updates, Terry Mills representing DWR asked the participants to consider if this is the best way to update the group on preliminary results from studies. He suggested that there may be other ways to group the reports that would facilitate discussions and help the work

group make progress toward development of PM&Es. He asked the participants to think about it during the presentations today and be prepared to discuss potential changes to the format.

SP-F3.2 – Task 1 and SP-F21, Task 2

Draft Report SP-F3.2, Task 1; SP-F21, Task 2 dated January 2003 was distributed (Attachment 5). Dave Olson with the consulting team explained the graphics contained in the report and indicated they would be further defined as information from the Feather River becomes available. Eric Theiss asked if there were any sturgeon in the low flow channel and Dave responded that fishing guides only fish for sturgeon below the Afterbay outlet. Mike Mainz representing DFG noted that Shanghai Bend and Live Oak diversions might block shad migration that is not represented in these reports. Dave agreed that these matrices would evolve as additional information such as specific potential blockages is gathered. The participants discussed the maps and agreed they were an excellent way to present the data but requested that they include several additions. Physical locations such as Sunset pumps diversion, Shanghai Bend, and steep riffle should be added as well as a caveat directing the reader how to use the information and its limitations.

SP-F3.2 – Task 2; and SP-F21, Task 1

Dave Olson distributed copies of Interim Report SP-F3.2, Task 2; SP-F21, Task 1 (Attachment 6) and described the literature review conducted for this study. He explained that this wasn't really a deliverable but a tool built to support other tasks. This document is the first generation and will be supplemented to eventually comprise a database that can be queried in a number of different ways. Eric Theiss asked if the information on the pinwheels could be referenced and Dave responded that citation information could be added. Dave also distributed Appendix A sections covering various fish species investigated (Attachment 7).

SP-F3.2 – Task 3A

Interim Report for SP-F3.2, Task 3A was distributed (Attachment 8). The study will continue with sampling during high flow observations in spring. Little definitive data is available regarding sturgeon swimming ability so it is difficult to make any determinations. A final report will be prepared after the spring observations.

SP-F10 – Task 1C

Interim Report SP-F10, Task 1C was distributed (Attachment 9). Dave Olson described the evaluation of flow-related physical impediments below the Fish Barrier Dam and agreed that this analysis has gone to as much detail as necessary to confirm what was already known regarding barriers and low flow.

SP-F10 – Task 4A

Interim Report SP-F10, Task 4A was distributed (Attachment 10). Dave reported that the rotary screw traps (RST) currently in use on the Feather River perform as well if not better than other RST evaluated. Terry Mills asked if this means we can finalize this task. Dave responded and the participants agreed that this effort is complete and a final report will reflect these findings later in the process. Eric Theiss indicated that he plans to get with the DWR RST crew and see how they use the equipment in the field.

SP-F10 – Task 3A

Michael Perrone representing DWR provided copies of Interim Report SP-F10, Task 3A (Attachment 11). He used a slide presentation to discuss the results of the study to date and describe the three survey scales used: broad, intermediate and fine (see Attachment 12). He reported that nearly all young of year (YOY) steelhead and salmon were in the low flow channel and more specifically in the hatchery ditch with many located at Auditorium Riffle. They are most numerous in April and both species were found most often in glides and cover. Michael reported that most of the results are from snorkel surveys and they are also doing redd surveys and looking

for adults. They focused on 4 meters from shore because they found that distance was a good predictor of fish locations with 99% of the fish found there. No nighttime snorkeling surveys were conducted and Mike noted that winter surveys are often hampered by turbidity. Mike Mainz asked about predator distribution and Michael responded that they don't have quantitative data but there are more bass in the high flow channel below the Afterbay outfall than in the low flow channel and they also observed abundant pike minnow in the low flow channel.

SP-W5, Task 1, Phase 1

Draft Report SP-W5, Task 1, Phase 1 was distributed (Attachment 13). Jerry Boles representing DWR described the effort to evaluate project effects on groundwater and ponds in the Oroville Wildlife Area (OWA). He explained that Lake Oroville was excluded from the assessment because relatively impermeable layers underlie it and thus there should be no effects to groundwater from the lake itself.

Terry Mills asked the participants if after hearing these presentations they felt this was the best way to present results. He suggested that we could report findings by geographic area or we could arrange the reports based on integration with other resources. Participants agreed to try other methods although they had no specific desires. Terry suggested he work with the consultants to see if there was a more efficient way to provide information and get feedback.

V. Water Temperature and Rice Production Presentation

Cass Mutters researcher with the University of California Cooperative Extension presented the results of a multi-year study begun in 1999 to investigate the effects of water temperature on rice production in Butte County. The objectives of the study were to quantify the effect of low water temperature on rice yield and identify the causes and spatial extent of the low temperature effects. He established a grid of temperature monitoring and recording devices within irrigated rice fields and collected data continuously throughout the growing season. He also monitored the water temperatures throughout the Western Canal and examined the use of remote sensing and mapping to estimate water temperatures and thermal gradients within fields.

Cass explained that the growing season for rice in the study area is May 1 to September 15 or roughly 140 days. The fields are flooded for 120 to 130 of those days. It takes about 4 days to flood a field and then additional flow is used to maintain a constant flow over the field to a depth of 4 inches. The checks, or subdivisions within a rice paddy are delineated with levees and weirs designed to move the water in a serpentine direction through and between the checks. The fields are laser leveled to achieve the desired movement and direction.

Cass described the sensor locations within each check and explained how he used a plot within that portion of a check furthest from the irrigation intake as the optimal field production value when determining percent yield reduction from temperature differences. He also plotted the relationship between water and air temperatures during critical rice development stages. He showed the participants remote sensing data indicating a temperature gradient extending from the irrigation intake south across the checks. An area along the main canal and northeast corner of an adjoining check also showed cooler temperatures, which Cass suggested may be due to subsurface irrigation flow along an impermeable clay layer at shallow depth. He found that the rice grown in the study area is most sensitive to cold water during the first 60 days while water temperature has little impact late in the season.

Cass presented several slides describing water temperatures measured along Western Canal in May 2001, concluding that the water warms very little for the first 15 miles and only begins to warm when it turns south and takes advantage of a large warming pond designated as wildlife refuge water plus some agriculture return flow.

He concluded that his preliminary results indicate rice has a mid-season threshold water temperature between 60 and 65° F. and that yield loss due to low water temperatures can occur even at higher air temperatures. He added that remotely sensed images seem to correlate to measured spatial yield variability and the regional impact appears widespread.

Several participants offered suggestions such as additional generation at Thermalito Diversion Dam to run cold water into the low flow channel and generate power that is now provided by pumpback, or piping colder water along the Afterbay and allowing other water more residence time in the Afterbay to warm before being diverted by farmers. Eric Theiss noted that temperature requirements are currently driven largely by the hatchery. The Environmental Work Group thanked Cass and said the information will be useful when looking at the impacts associated with operational changes that may affect water temperatures at diversion points. Cass Mutters' presentation is provided as Attachment 14.

VI. PM&E Discussion

Terry Mills briefly reminded participants of the progress within the Plenary Group Process Protocol Task Force toward developing a structure and format for PM&E submittal and evaluation with the immediate goal of the Task Force to gain approval of the Resource Action identification Form. The participants discussed how to join the study plan results with the evaluation of PM&Es. Terry suggested that the study leads could begin the discussions by answering the question of whether the study is meeting the stated goals and objectives contained within the original study plan. They might also suggest potential PM&Es that could be considered. Eric Theiss asked when a final version of the study plans would be made available to the participants, preferably on a CD-ROM. The Facilitator agreed to check with the consulting team and DWR on the target date for delivering the final study plans.

The participants agreed that the cover sheet for deliverables prepared by study leads should include the following:

- Indicate how the study is meeting the goals and issues included in study plan
- Bulleted list of key findings (executive summary)
- Suggestions for any potential PM&Es to address identified impacts

Terry distributed a document grouping the Fishery Issue Goals into five major headings and a matrix that included the resource goals and issue statements for all of the environmental sub-groups (Attachments 15 and 16, respectively). Participants agreed that these documents were helpful in bringing the goals back into the process and suggested that the other environmental sub-groups be compiled in the same way as the fishery Issue Goals. DWR agreed to group the other issue sheets into goals by resource. Eric Theiss asked if DWR could provide a list of study leads for all of the fisheries study plans. DWR agreed to provide the collaborative with a list of study lead contacts by study plan.

Nan Nalder representing the State Water Contractors asked for suggestions from the Environmental Work Group on how they would like to work through cross-resource issues. Sharon Stohrer suggested that the Environmental Work Group should first focus on their own PM&Es, recognizing that this work group is the driver for the development of other PM&Es in this process, and then meet with other work groups to discuss opportunities and constraints. Eric Theiss explained that he would like to convene a meeting with NMFS, USFWS, DFG and NGOs to get started in developing PM&E proposals. He added he would be more comfortable developing the proposal in this smaller group and then presenting to the Environmental Work Group. Mike Mainz representing DFG countered that he prefers to develop the PM&Es in the Environmental Work Group because he cannot schedule any more meetings and he feels the collaborative process is in

place to do that task. Terry Mills offered that development within the work groups would avoid redundancy and be more efficient than several stakeholders independently working on the same PM&E.

Terry asked other members of the Process Protocol Task Force for their perspective on the proposed steps to PM&E development. Sharon Stohrer suggested that the PM&Es would be developed in the work groups with the DWR Resource Area Managers (RAMs) meeting to resolve cross work group conflicts. After work group acceptance, the PM&Es would go to the Plenary Group where they could either accept them or convene additional cross-resource task forces to resolve remaining conflicts. Mike Melanson added that the Process Protocol Task Force envisions three avenues for PM&E submittal: through development at the work group, development by outside stakeholders, or development by study plan authors.

Craig Jones pointed out that the PM&E development process needs to happen concurrent with study completion so, while we won't have all the results we need to be specific, we should be able to bracket the variables or provide a reasonable range for analysis in the environmental document. Eric Theiss stated that once NMFS has developed a PM&E they feel addresses a resource need, they are not likely to accept revisions to that PM&E. Wayne Dyok suggested that the resource agencies put their conceptual PM&Es forward so the collaborative has an initial idea of the types of actions to consider and what the goals are for that agency. Then the collaborative can discuss mechanisms to achieve those goals – and there may be several options – to reach the same goal. The PM&E is the goal from which the collaborative can fashion a method to achieve it.

Eric reiterated his desire to meet separately with the other agencies and Cesar Blanco representing the FWS agreed to the concept. Mike Mainz disagreed, suggesting it would cause the agencies to be competitive and Sharon Stohrer seconded the concern regarding additional meetings outside of the scheduled Environmental Work Group meetings adding she prefers to brainstorm in the work group. Eric also referred to adaptive management strategies that may be necessary to collect the data he feels will be required to address PM&E proposals since those data needs were not addressed in the first year study plans.

Terry Mills wrapped up the discussion by encouraging Eric and every other stakeholder to develop PM&E options and also directing the study plan leads to produce some options for discussion within the Environmental Work Group. The participants agreed to begin discussing potential PM&E or resource actions associated with the next set of deliverables.

VII. Next Steps / Future Agendas

The Facilitator reviewed the draft future meeting agendas and indicated what deliverables and updates were due at future meetings. She indicated that the February meeting would include a Resource Area discussion that will use a holistic approach to focus on a particular resource or geographic area to be developed by DWR and the consulting team. The participants agreed that the February Work Group meeting would be:

Date: February 19, 2003
Time: 9:30 a.m. – 3:30 p.m.
Location: Kelly Ridge Golf Course Meeting Room

Action Items

The following action items identified by the Environmental Work Group includes a description of the action, the participant responsible for the action, and due date.

Carry-Over

Action Item #E67: Prepare a map of the surveyed areas for SP-T2.
Responsible: DWR
Due Date: January 19, 2003

New

Action Item #E74: Expand list of goals document to include other resource areas.
Responsible: DWR/consultants
Due Date: February 19, 2003

Action Item #E75: Provide list of all environmental study leads and contact numbers.
Responsible: DWR/consultants
Due Date: February 19, 2003

Action Item #E76: Investigate and report back on status of final study plan distribution.
Responsible: DWR/consultants
Due Date: February 19, 2003

Action Item #E77: Prepare bullet list of potential resource actions for discussion purposes.
Responsible: DWR/consultants
Due Date: February 19, 2003